

SOV/75-13-4-12/29

AUTHORS:

Nazarenko, V. A., Biryuk, Ye. A., Ravitskaya, E. V.

TITLE:

The Determination of Indium Admixtures in Germanium  
(Opredeleniye primesi indiya v germanii)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1958, Vol. 13, Nr 4, pp. 445-  
448 (USSR)

ABSTRACT:

The authors of the present paper investigated various color reactions sensitive to indium. They found the reaction with diphenyl carbazone best suited for the quantitative determination of indium (Ref 2). Diphenyl carbazone with indium in a weakly acid solution yields a violet coloration; no precipitation takes place with larger amounts of indium. In the absence of indium the solution has a yellow-brown color. The optimum pH-value for this determination is at pH 5-6. At pH 5-6 the foreign ions of Mg, Ca, Al, Cr(III), Ti, Mn(II), U(VI), Cd, Pb, Bi, Sn(IV), Sb, As, Ag, Ge, and Ta do not disturb the determination if their excess is not greater than 10-fold. Gallium yields the same reaction as indium, however, with a considerably lower sensitivity. Fe(III) under the conditions

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The Determination of Indium Admixtures in Germanium SOV/75-13-4-12/29

of the determination does not show a reaction with diphenyl carbazole, it masks, however, indium almost completely. This disturbing influence can, however, be removed by thiourea. There a  $p_H$  of 5,6 is necessary (hydrochloric acid-pyridine-buffer). At  $p_H$  6 no means for the masking of iron could be found. Thiourea besides iron also masks copper and reduces the disturbing influence of zinc. In order to exclude the disturbing influence of iron it is useful to work at  $p_H$  5,6. At this  $p_H$  the intensity of the color is by 50% weaker than at  $p_H$  6, the specific character is, however, greater. The maximum of the absorption is at 530  $\mu\text{m}$ ; at this wave length, however, also the reagent still absorbs noticeably. Therefore the indium is determined at 570  $\mu\text{m}$ , where the reagent does no longer absorb, while the absorption of the complex is only little below the normal value. Solutions with an indium content of 0,4 - 5% follow Beer's law. The color of the solutions is constant only for 15 minutes as the complex then coagulates. Indium traces in germanium can be determined by means of this method when the germanium is evaporated in the form of tetrachloride. Then indium is obtained as a quantitative residue. In the analysis

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of impurified  $\text{GeO}_2$  and also of metallic germanium the residue does still contain disturbing metals; therefore the indium must be separated. This is achieved by the extraction with ether from hydrogen bromide acid solution. In order to prevent the iron being co-extracted  $\text{TiCl}_3$  is added. Because of the low capacity of the hydrochloric acid-pyridine-buffer the solutions to be analyzed must be as neutral as possible. In order to prevent that in the boiling down of the acid solutions to dryness a hydrolysis of the indium salts takes place a little sodium chloride is added. Thereby the hydrolysis is prevented as natural chloroindate is formed. The plotting of the calibration curve, the preparation of the reagents as well as the carrying out of the determination of indium in germanium are described in all details. The sensitivity is then  $2 \cdot 10^{-5}\%$ ; this determination is well suited for the indium traces in germanium. There are 4 figures, 3 tables, and 3 references, 2 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR,  
Card 3/4 laboratoriya v g. Odessa (Institute for General and Inorganic

The Determination of Indium Admixtures in Germanium SOV/75-13-4-12/29

Chemistry, AS Ukr SSR, Odessa Laboratory)

SUBMITTED: June 16, 1957

1. Indium--Determination 2. Germanium--Analysis 3. Diphenyl  
carbazone--Chemical reactions 4. Photometry

Card 4/4

L 15758-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACC NR: AF5027457

SOURCE CODE: UR/0032/65/031/011/1301/1303

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B

AUTHOR: Nazarenko, V. A.; Ravitskaya, R. V.

ORG: Institute of General and Inorganic Chemistry, AN UkrSSR(Institut obshchey i neorganicheskoy khimii AN UkrSSR)

TITLE: Photometric determination of indium in ores and metals by using trioxyfluorones

SOURCE: Zavodskaya laboratoriya, v. 31, no. 11, 1965, 1301-1303

TOPIC TAGS: indium, fluorine compound, photometry, microchemistry

ABSTRACT: It has previously been shown (Ukrainski khimicheskiy zhurnal, 1964, Vol. 30, p. 625) that the trioxyfluorones, having in their molecule the oxyphenyl, oxynitrophenyl, or sulfophenyl radical R, were the most suitable for the determination of In because they did not require the addition of ethanol to the reaction medium. The salicyl- and disulfophenylfluorones, synthesized according to the

UDC: 546.682 : 543

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ACC NR: AP5027457

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description given by V. A. Nazarenko et al. (Sb. "Metody polucheniya khimicheskikh roaktivov i preparatov", IREA, 7, str. 21, 1963), were used in the present experiments for the determination of In in silicate, sulfide, and oxide ores, and in metallic Pb and Zn with a sensitivity of In 0.02 γ/ml. Separation of interfering elements was made by the precession of In hydroxide with NH<sub>3</sub> in the presence of H<sub>2</sub>O<sub>2</sub> and the subsequent extraction of InI by ether. Dissolve 1 g sample by any appropriate solvent (silicates by HF - N<sub>2</sub>SO<sub>4</sub>, sulfides by HNO<sub>3</sub> or HNO<sub>3</sub> - HCl, etc.), add 3 ml of 30% H<sub>2</sub>O<sub>2</sub> and 40 mg of Fe (in the form of sulfate). If the sample contains little or no Fe, drop in 25% NH<sub>3</sub> soln. until a precipitate is forming, add 2 ml of NH<sub>3</sub> in excess, settle, and filter out sediment, wash with 1% NH<sub>4</sub>Cl solution, dilute to 200 ml with water, add 3 ml of H<sub>2</sub>O<sub>2</sub>, repeat the precipitation with NH<sub>3</sub>, dissolve the washed residue in 2 NH<sub>2</sub>SO<sub>4</sub>, add 8 gr of KI, and discolor the solution by dropping in a 5% solution of Na Thiosulfate with 2 to 3 drops added in excess. Extract twice (using 30 ml batches of a pure diethyl ester) the discolored solution in a separating funnel, add (before the second extraction) 2 to 3 drops of thiosulfate solution. Wash the combined ester extracts 4 times with a special liquid (8 gr. of KI dissolved in 50 ml. of INH<sub>2</sub>SO<sub>4</sub> with a few drops of 5% soln. of Na thiosulfate). Reextract the In from the washed extracts, stirring 3 times for 2 minutes, with 15 ml of water. Put the reextracts into a 50-ml measuring flask and bring the volume to the mark. Depending on the

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expected content of In (1-40% of In), transfer 1 to 50 ml of the solution obtained into a 50 ml measuring flask, add solutions of 1% NH<sub>4</sub>F 0.5, 2% ascorbic acid 0.5, 0.25% O-phenanthroline 1, 1% gelatin 0.05%, 2 ml of salicyl<sup>-</sup> or disulfophenylfluorone (dissolve 50 ml of reagent in 99 ml of 90% ethyl alcohol and IN of 1 ml HCl) and 19-20 ml of acetate (pH 4.6) buffer solution. After 45 minutes, measure the optical density in a vessel with a layer thickness of 20 or 50 mm at 535 or 530 m $\mu$  for salicylfluorone or disulfophenylfluorone, respectively. Measuring is done for the same solution but without In. A green light filter is used with the photocalorimeter FEK-M. The amount of In is determined from the calibration curve plotted for 0-40% In. Orig. art. has 1 table.

SUB CODE: 07,20/ SUBM DATE: 00/ NR REF Sovi 007/ OTHER: 006.

3/3 SM

RAVITSKAYA, R.V.

AUTHORS: Nazarenko, V.A., Lebedeva, N.V., Ravitskaya, R.V. 32-1-2/35

TITLE: The Method of Determining Germanium in Ores, Coals, and Industrial Waste (Metod opredeleniya germaniya v rudakh, uglyakh i promyshlennykh otkhodakh).

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 1, pp. 9-13 (USSR)

ABSTRACT: In the introduction to this work it is said that the best-known method for this purpose is the phenyl-fluoron colorimetric method. Phenylfluoron (9-phenyl-2,3,7-trioxide-fluoron) forms a red precipitation with the tetravalent germanium in which to each germanium atom there correspond two molecules of the reagent. Various varieties of this method, in the first line such developed by foreign scientists like Cluley, Ladenbauer, Slama and Hecht, Luke and Campbell, Schneider and Sandell, as well as by the Soviet scientists Gillebrand and Lendel' and others are cited. It is further mentioned here that phenylfluoron reacts (like to germanium) also to many other elements of the groups IV, V and VI of the periodic system. In order to separate germanium from disturbing elements it is recommended to extract the germanium tetrachloride from the 6-n hydrochloric acid by distillation or by extraction with tetrachloride carbon from 8-9-n hydrochloric acid (examples). In conclusion it is recommended to apply the method

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The Method of Determining Germanium in Ores, Coals, and  
Industrial Waste

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described uniformly to all materials. A difference in treatment is possible solely in the introductory work of separating elements. This generalized method consists in the extraction of the germanium with carbon tetrachloride from 9-n hydrochloric acid, with following re-extraction with water and colorimetric determination with phenylfluoron. A table of results is given with respect to pyrite-, copper-, zinc-, lead-, antimony-, and iron ores, coal, coke, and coal resin. The experimental part of the present work contains three chapters: "Separation of Samples", "Extraction and Determination of Germanium", and the "Construction of the Calibrating Curve". There are 11 references, 2 of which are Slavic.

ASSOCIATION: Ukrainian Branch of the State Institute for Rare Metals and Such as Occur in Small Quantities (Ukrainiskiy filial Gosudarstvennogo instituta redkikh i malykh metallov).

AVAILABLE: Library of Congress

Card 2/2      1. Germanium-Determination    2. Germanium-Separation

RAVITSKAYA, T.M.; KAZARNOVSKIY, D.S.; Prinimali uchastige: KLIMENKO, A.N.;  
FADEYEVA, A.M.

Mechanism of the formation of defects of contact origin  
in rail heads. Sbor. trud, UNIIM no.11:324-333 '65.  
(MIRA 18:11)

ZANNES, A.N., inzh.; RUDOL'SKIY, N.L., inzh.; FRADIN, M.D., inzh.;  
SAPELKINA, O.R., inzh.; BIKHUNOV, L.Ya., inzh.; GLOZMAN, M.I.,  
inzh.; Prinimali uchastiye: DEMICHEV, A.D.; SUCHKOUSOV, V.P.;  
BLAGOVESHCHENSKIY, G.V.; GOLOVIN, G.F.; KAZARNOVSKIY, D.S.;  
RAVITSKAYA, T.M.

Surface induction hardening of rails along their whole  
length at the Azovstal' Plant. Stal' 24 no.8:731-734  
(MIRA 17:9)  
Ag '64.

1. Nauchno-issledovatel'skiy institut tokov vysokoy chastoty  
(for Demichev, Suchkousov, Blagoveshchenskiy, Golovin).
2. Ukrainskiy nauchno-issledovatel'skiy institut metallov  
(for Kazarnovskiy, Ravitskaya).

81520

SOV/137-59-5-10894

18.1150

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, pp 207-208  
(USSR)

AUTHORS: Kazarnovskiy, D.S., Ravitskaya, T.M., Zannes, A.N., Loyzan, O.R.

TITLE: The Effect of Arsenic on Properties of Rail Steel Quench-Hardened  
by High Frequency Current

PERIODICAL: Byul. nauchno-tekhnik. inform. Ukr. n.-i. in-t metallov, 1958, Nr 6,  
pp 90 - 103

ABSTRACT: The authors investigated "M-73" grade rail steel of the following  
composition (in %): C 0.67 - 0.78; Mn 0.78 - 0.97; Si 0.19 -  
0.25; S 0.018 - 0.027; P 0.24 - 0.34; As 0.125 - 0.139. The  
steel was quench-hardened by high-frequency current (500 cycles).  
To investigate the effect of higher As amounts (> 0.15%) experi-  
mental rails with 0.204 - 0.243% As were manufactured. It was  
established that an As content, increased from 0.125 to 0.24%, did  
not entail substantial changes in  $H_B$ ,  $\sigma_b$ ,  $\sigma_w$  and toughness of steel

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The Effect of Arsenic on Properties of Rail Steel Quench-Harden by High Frequency Current

after high-frequency quench-hardening.  $a_k$  decreased with a higher As content. For instance, in steel with 0.67% C after high-frequency quench-hardening  $a_k$  at +20 and -60°C is equal to 6.5 and 4.35 kgm/cm<sup>2</sup> respectively; with 0.125% As, it is 4.45 kgm/cm<sup>2</sup>; at 0.24 As it is 3.25 kgm/cm<sup>2</sup>.

I.B.

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AUTHORS:

Kazarnovskiy, D.S. and Ravitskaya, T.M. 67276  
Diffusion Processes in Steel Containing Arsenic 18  
SOV/180-59-4-4/48

TITLE:

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh  
nauk, Metallurgiya i toplivo, 1959, Nr 4, pp 15-27 (USSR)

ABSTRACT:

The authors point out that although a considerable amount of work has been done on the effect of arsenic on the mechanical properties of iron and steel, little is known of its effect on phase transformations and less of the influence of arsenic on diffusion in iron and steel; the present investigation on diffusion was undertaken to fill this gap in knowledge. M.A. Gershgorin participated in the experimental work. A.M. Ponomarenko carried out a series of experiments (Ref 3) and 0.67 to 0.78% C was subjected to 0.127 to 0.313% As investigation after various heat treatments: Fig 1 and 2 show microstructures, the latter showing the banded structure often obtained with arsenic-containing steels, while Fig 3 shows the removal of arsenic by A.K. Shurin and V.N. Svechnikov. To study the influence of banding on diffusional annealing (an effect reported by A.K. Shurin and V.N. Svechnikov).

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Diffusion Processes in Steel Containing Arsenic

the properties, four heats of rail steel (0.14 to 0.30% As, 0.71 to 0.78% C) were subjected to tensile testing at ordinary and low temperatures (-183°C) and to static-bend (Table 1), toughness (Fig 4) and fatigue tests. Test pieces were cut from rails across and along the direction of rolling and tested after heat treatment with and without diffusional annealing. The results failed to support, at any rate for high-carbon steel, the conclusions of Kameron and Vatergauz (Ref 1) (Cameron and Waterhouse) that arsenic cannot diffuse in steel and that the banded structure cannot be eliminated by any heat treatment. In fact the present work shows that properties of high-arsenic steel can be improved by special heat treatment. To check the reported (Ref 5) presence of a high-arsenic surface zone at high temperatures of heating two series of experiments were carried out. In the first, in which K.N.Klimov participated, 10 mm diameter and 40 mm long specimens of low and high-carbon steels with about 0.10% As were heated for 2, 4, 6 and 8 hours in air at 1220 to 1230°C. After descaling successive layers of the metal were dissolved in acid, the arsenic content of the solution and

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Diffusion Processes in Steel Containing Arsenic

the loss in weight of the specimen giving the layer arsenic content. The results showed that just below the scale a concentration of arsenic occurs, the scale being poor in arsenic. In the second series specimens of 8 heats with 0.5 to 0.78% C and 0.018 to 0.267% As 12 mm in diameter and 140 mm long were heated in air at 900, 1000, 1100 and 1200°C for 1, 3 and 6 hours, the rest of the procedure being as before. Fig 5 shows arsenic content plotted against depth of layer below the surface for the different temperatures and arsenic contents. Surface concentration of arsenic occurred with all specimens (even those with only 0.018% As) increasing with the arsenic content and temperature. Microstructure<sup>1</sup> of the surface layer of steel (0.75% C, 0.258% As) after 6 hours heating at the different temperatures are shown in Fig 6: the thickness of the light-coloured arsenic-rich layer increases with increasing arsenic content of the steel. Concentration gradients were also studied by X-ray methods (by N.I.Sandler) in specimens heated at 900 and 1200°C for 3 and 6 hours by lattice-constant determination of the surface and at the centre of the specimen. Analysis of ✓

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Diffusion Processes in Steel Containing Arsenic

the results (Table 2) again shows a very high degree of arsenic concentration at the surface. The authors consider that all factors accelerating carbon-diffusion in ferrite will accelerate carbide spheroidization, and vice versa, and therefore studied the influence of arsenic on spheroidization. Heat-treated 10 x 10 x 27 mm specimens were studied with an optical microscope, it being found that a higher As-content promotes spheroidization (Fig 7 and 8 show microstructures for steel with the same carbon content and 0.141 and 0.363% As, respectively; Fig 9 those for steel with varying carbon and arsenic contents). Similar effects were found in microstructures observed with an electron microscope. Finally, the authors studied the frontal diffusion of manganese in steel by cementation of specimens in 50 to 60 mesh ferromanganese mixed with fireclay (to prevent sintering); the mixture was tamped down in a 3 mm diameter axial hole in 15 mm diameter, 25 mm long specimens with various arsenic contents. The specimens were then heated at 1200°C for 10 hours. A study of transverse polished sections (Fig 11) shows that with a low (about 0.05%) arsenic content, the rates of manganese

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Diffusion Processes in Steel Containing Arsenic

diffusion over and through the grains are equal; however, with a high content (0.288%) the tendency of the arsenic to concentrate towards grain centres leads to slower diffusion of manganese through than between grains. The authors mention that they consider the effects of arsenic on phase transformations in another paper; the present work, however, explains many of the observed effects (eg decreased stability of austenite). There are 11 figures, 2 tables and 11 Soviet references.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut metallov  
(Ukrainian Scientific Research Institute for Metals) 4

SUBMITTED: April 21, 1958

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18.2500

67834  
SOV/180-59-6-11/31

AUTHORS: Kazarnovskiy, D.S., and Ravitskaya, T.M. (Khar'kov)

TITLE: Influence of Arsenic on the Phase Transformations<sup>16</sup> in Carbon Steel<sup>17</sup>

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 6, pp 83-91 (USSR)

ABSTRACT

The authors point out that in spite of the importance of phase changes for the properties of steels and the sensitivity of these changes to impurities the corresponding published data for arsenic as the impurity are scarce, isolated and sometimes contradictory. The object of the present investigation was to fill this gap for medium- and high-carbon steels. M.A. Gershgorn and A.M. Ponomarenko participated in the experimental work. The metal studied contained 0.46-0.92% C, 0.018-0.36% As, 0.77-0.93% Mn, 0.15-0.24% Si, 0.022-0.32% S, 0.018-0.039% P. The test metal was melted in a 250-kg basic induction furnace and in a tilting 350-tonne or open-hearth furnace at the "Azovstal'" works. Arsenic additions were effected for the small heats by adding iron-arsenic briquettes into the teeming ladle, all

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Influence of Arsenic on the Phase Transformations in Carbon Steel ingots being forged into 30 x 30 mm bars. For the production heats the additions were made as ferro-arsenic into the furnace after tapping 50-60% of the metal into the first ladle; the metal was rolled into type R-50 (50 kg/m) rails. All samples were normalized from Ac<sub>3</sub> + 600°. Critical points were determined with a M.M. Kantor type DMM dilatometer. The kinetics of austenite grain growth were measured at 800-1200 °C for steels with 0.63% C (Fig 1a) and 0.76-0.80% C (Fig 1b); the higher curve numbers indicate lower As contents. Grain size numbers are given in terms of the GOST 5639-51 scale. Microstructures of a 0.48% C steel with 0.018 and 0.204% As heated at 900 and 1000 °C are shown in Fig 2. The increase in grain size with increasing arsenic content is shown in Fig 3 for a 0.72-0.78% C steel heated at 1100 and at 1200 °C. The isothermal austenite transformation was studied on three experimental heats with 0.018-0.36% As and 0.78-0.92% C, specimens 3 mm long and 30 in diameter being tested in a N.S. Akulov anisometer with the aid of T.F. Filippova. Austenization temperatures were 850 and 1000 °C.

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Influence of Arsenic on the Phase Transformations in Carbon Steel

Fig 4 shows the transformation diagrams, while Fig 5 gives plots of percentage of austenite decomposed against arsenic content for different temperatures and times, showing the accelerating effect of arsenic. Hardenability of several heats was determined on 20 x 22 x 75 mm notched or 25-mm diameter test pieces. Fig 6 shows the hardenability curves for a 0.76% C steel with different arsenic contents. Temper brittleness was measured by impact-bending tests of standard test pieces with 2-mm deep notches subjected (as blanks) to various heat treatments, including one specially likely to aggravate temper brittleness. Results for various 0.13 and 0.208% As steels are shown as curves of toughness vs temperature (-100 to +20 °C) in Fig 7. The microstructures in the tough and brittle states are shown in Figs 8a and b, respectively; electron-microscopic pictures of the corresponding areas are shown in Fig 9. The authors conclude that for steels with 0.46-0.80% C an increase in arsenic content up to 0.36% has no appreciable effect on the critical points. Increasing arsenic content leads to greater austenite grain-size ✓

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Influence of Arsenic on the Phase Transformations in Carbon Steel  
on heating to about 1000 °C and over. In high (0.78-  
0.92%) carbon steels higher arsenic content accelerates  
or slows down austenite decomposition in the higher  
(above 500 °C) and lower temperature regions,  
respectively. In 0.62-0.92% C steels it leads to a  
reduction in hardenability on quenching from 80-100 °C  
above  $A_{c3}$ ; at higher quenching temperatures arsenic has  
little effect. With heat treatment involving high  
(about 1000 °C) hardening temperatures and slow cooling  
after tempering from temperatures above 600 °C arsenic  
promotes temper brittleness in medium- and high-carbon  
steels; it has little effect with normal hardening  
temperatures.

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There are 9 figures and 17 references, of which 9 are  
Soviet, 5 English, 2 German and 1 Czechoslovak.

SUBMITTED: April 21, 1958

W

KAZARNOVSKIY, D.M.

133-2-8/19

AUTHOR: Kazarnovskiy, D.S. (Cand.Tech.Sc.)

TITLE: Ways of Solving the Problem of Rails (Puti resheniya  
rel'sovoy problemy)

PERIODICAL: *Stal'*, 1958, Nr 2, pp.138-144 (USSR)

ABSTRACT: The problem of increasing the service life of rails is discussed. After reviewing the achievements of Soviet technology in the manufacture of rails, the author points out that as yet the durability of rails in the USSR, as well as abroad, is insufficient. Strengthening of rails has been obtained by increasing the weight per length and the content of carbon in steel. However, increasing carbon above 0.75% is accompanied by a decrease in the tensile strength of notched specimens (Fig.2) and the brittleness of steel on impact bending (Fig.3). The increasing intensity of railway traffic and the distribution of defects in the rails taken off from lines are discussed. It is pointed out that increasing the weight of rails had little effect on the proportion of defects of a brittle nature, and as a result of wide investigations carried out by various institutions in post-war years, the following methods of

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Ways of Solving the Problem of Rails.

further improvement of the service life of rails seem to be possible: a) thermal treatment of rails from carbon steel, b) the manufacture of rails from alloy steels and c) improvement in the profile of rails and their service conditions on railways. After discussing the above methods in the light of published literature, the following conclusions are drawn. In the field of manufacture of rails: 1) An industrial check of the effect of surface hardening of the head along the whole length of rails made from carbon steels from a separate heating. 2) Organisation of the production of a proportion of rails (10-15%) for laying on curves from alloy steels. The required improvement of the quality of rails can be obtained by alloying with one or a few of the following elements: Mn up to 2%; Cr up to 3%; Mn up to 1% and Cr up to 1.2%; Mn 1%, Cr 1.2% and Si 0.75%. 3) Normalisation of rails from Bessemer steel with increased carbon content up to 0.75%. 4) A sharp decrease of residual stresses after cold straightening. 5) Increase in the production of rails 25m long. 6) The choice of optimum weight of ingots and method of their deformation for the manufacture of heavy rails (types P-65 and P-75). In the field of improvement of operating

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Ways of Solving the Problem of Rails.

conditions of rails: 1) Improvement in the profile, in particular the solution of the problem of shape of the rail head for type P-50 and of the size of the radius of the upper face of the rail head. 2) Improvement in the layout of tracks - a decrease in the number of curves and an increase in their radius. 3) Optimum inclination of rails on curves. 4) Lubrication of side working face of external rails on curves. 5) Improved seating of bogies of locomotives into curves of a small radius. The following names are mentioned in the paper: T.M. Ravitskaya (cooperated with the author); K.N.Klimov (observation of service of rails on a special sector, Ukrainian Institute of Metals); Yu.V. Grdina, Prof., V.A.Tikhovskiy and N.P.Shchapov - members of the Interdepartments Rail Brigade (which functioned from 1947-1956); I.P.Bardin, Academician (in charge of NITO which functioned from 1951-1956, from 1956 functions of the above institution were taken over by the Interdepartmental Committee of the Academy of Sciences of the USSR, under the direction of I.P.Bardin); N.I.Dolotova (cooperated with the

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AUTHOR: KAZARNOVSKIY, D.S., RAVITSKAYA, T.M., cand.of PA - 2400  
techn.science, SIDEL'KOVSKIY, M.P., and TARASOVA, L.P.,  
engineers, Ukrainian Scientific Institute for Metals and  
"Azovstal'"-plant (Ukrainskiy nauchno-issledovatel'skiy institut  
metallov i zavod "Azovstal'").

TITLE: Properties of Open-Hearth Steel Produced with Application of  
Oxygen. (Svoystva martenovskoy stali, vyplavленной с приме-  
niyem kisloroda, Russian).

PERIODICAL: Stal', 1957, Vol 17, Nr 2, pp 152 - 157 (U.S.S.R.).  
Received: 5 / 1957 Reviewed: 5 / 1957

ABSTRACT: The following investigations were carried out jointly by the  
two Institutions: Rail steel of the M-73 type, cast of pig iron  
with a high content of phosphorus in 350 t basic tiltable open  
hearth furnaces. It was found that the addition of oxygen to the  
cannel coal of the open hearth furnace before deoxidation as well  
as into the trough during polishing does not deteriorate the in-  
vestigated physical and mechanical properties of rail steel  
(0,6 - 0,8 % C). The intensification of the smelting process of  
the carbon steel by means of the addition of oxygen into the  
trough by stopping blowing within 55 - 8 minutes before de-  
oxidation does not lead to a reduction of the static values of  
strength, of the values of plasticity, and of the fatigue strength  
rate of the steel. However, a certain increase of the total

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Properties of Open-Hearth Steel Produced with Application of Oxygen.

content of oxygen, a reduction of the notch toughness, and an acceleration of the aging process were observed with the stopping of blow through the trough within less than 60 minutes before deoxidation to the same extent as the period of time between the ceasing of the blow and deoxidation was reduced.  
(7 tables and 8 illustrations).

ASSOCIATION: Ukrainian Scientific Research Institute for Metals, and the "Azovstal'" Plant.

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AVAILABLE: Library of Congress.

Card 2/2

RAVITSKIY, A.B.

Results of short-wave therapy of pneumopleuritis. Probl. tub.  
no.5:51-55 S-O '54. (MLRA 7:12)

1. Iz Yaltinskogo klinicheeskogo sanatoriya No.1.  
(PNEUMONIA, complications,  
pneumopleuritis, ther., short-wave diathermy)  
(PLEURISY, complications,  
pneumopleuritis, ther., short-wave diathermy)  
(DIATHERMY,  
short-wave, in pneumopleuritis)

BULGARIA

V. BERGAMINI and L. RAVIZZA, Department of Neurology (Head Prof D. BOASSI) University of Torino, Italy.

"Modern Electromyography (Tokizane Method)."

Sofia, Neurologiya i Psichiatriya, Vol 2, No 1, 1963; pp 36-47.

Abstract [English summary modified]: Method of neurophysiologic study developed by the Japanese Tokizane and based on repeated electromyographic records of individual muscles. When properly diagrammed these permit differentiation between 'phasic' and 'tonic' movements. Authors studied in this manner 30 patients, making 542 records including of changes in function following neurosurgical treatment for parkinsonism. Eight graphs, 48 Western & Japanese references.

1/1

RAVKIN

26028

E.I. sovetskaya shkola v pyeriod pyeryekhoda na mirnyu rabotu po vosstanovlyeniyu narodnogo khoeyaystva SSSR (1921-1925 gg.) Sov. pyedagogika, 149, No. 8, c. 84-98 stolyarskiy, o. komsomolpomoshchnik uchityelya.--SM. 25446.

12. Kul'turno-prosvyetyel'naya rabota. Kul'turno-prosvyetyel'nyye uchryezhdyeniya i organizatsii. Mueyci. Radiopyeryedachi

(Tyekhnika radiovyeshchaniya--SM. XVI, 4 Zh. eksp. 1catatsionnye voprosy--SM. XIX, 3)

So: Letopis' No. 34

RAVKIN, A.A.

Carts for unrolling one or three wires in constructing electric  
lines. Biul. tekhn.-ekon. inform. Gos. nauch.-issl. inst. nauch.  
i tekhn. inform. 18 no.3:44-45 Mr '65. (MIRA 18:5)

RAMKHEN, I.F.; FEDOTOV, D.D., prof., otv.red.; PCSVYANSKIY, P.B., prof. otv. red.; GOFMAN, K.G., kand.med.nauk, red.; RAVKIN, A.G., kand.med.nauk. red.

[Cooping treatment of the morphine abstinence syndrome using cholinolytic and curarelike substances; a methodological letter]  
Kupirovanie morfiinoi abstinentii kholinoliticheskimi i kurare-podobnymi preparatami; metodicheskoe pis'mo. Moskva, 1965. 23 p.  
(MIRA 18:8)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy institut psichiatrii.

RAVKIN, I., prof. (Moskva)

Review of T.A. Nevzorova's book "Psychopathology in the clinical  
picture of internal diseases and first aid." *Klin.med.* 37 no.9:  
154-155 S '59. (MIRA 12:12)

(MEDICINE, PSYCHOSOMATIC) (NEVZOROVA, T.A.)

RAVKIN, Genrikh Oskarovich; ROTENBERG, R.V., doktor tekhn. nauk,  
retsenzent; LAPIN, A.A., kand. tekhn. nauk, red.; EL'KIND, V.D.,  
tekhn. red.

[Pneumatic suspension of motor vehicles] Pnevmaticheskaiia podveska  
avtomobilia. Pod red. A.A.Lapina. Moskva, Mashigz, 1962. 267 p.  
(MIRA 15'6)

(Motor vehicles--Springs)

PAVKIN, A.S.

Some characteristics of the dormancy period in currants and  
gooseberries as related to freeze injuries. Agrobiologija  
no.2:314-317 Mr-Ap '64. (MIRA 17:6)

1. Nauchno-issledovatel'skiy zonal'nyy institut sadovodstva  
nechernozemnoy polosy.

RAVKIN, I. G.

Ravkin, I. G. - The role of the sympathetic nervous system in developing and molding psychopathological symptom complexes," Trudy Tsentr. in-ta psikiatrii, Vol. IV, 1949, p. 225-37

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949).

FEDOTOV, D.D., prof., otv. red.; ROKHLIN, L.L., prof., zam. otvet. red.; TARASOV, G.K., dots., red.; AVRUTSKIY, G.Ya., red.; BORINEVICH, V.V., red.; ZAK, N.N., red.; ZELEVA, M.S., red.; RAVKIN, I.G., red.; REMEZOVA, Ye.S., red.; TSUTSUL'KOVSKAYA, M.Ya., red.; ENTIN, G.M., red.; BORINEVICH, V.V., otv. za vypusk

[Modern methods of treating mental illness; methodological materials for aiding the practicing physician] Sovremennye metody lecheniya psichicheskikh zabolеваний; metodicheskie materialy v pomoshch' prakticheskому vrachu. Pod red. L.L.Rokhlina i G.K.Tarasova. Moskva, 1961. 67 p. (MIRA 15:1)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy institut psichiatrii.

(MENTAL ILLNESS) (PSYCHOPHARMACOLOGY)

RAVKIN, I.G., prof.

Determination and the principles of the use of psychotropic drugs  
in combination therapy for schizophrenia. Trudy Gos.nauch.-issl.  
inst.psikh. 35863-72 '62. (MIRA 16:2)

1. Otdeleniye eksperimental'noy terapii shizofrenii i drugikh  
psikhozov (zav. otdeleniyem - prof. I.G. Ravkin) Gosudarst-  
vennogo nauchno-issledovatel'skogo instituta psikiatrii.  
(PSYCHOTROPIC DRUGS) (SCHIZOPHRENIA)

ZAK, N.N.; ZELEVA, M.S.; KANEVSKAYA, F.O.; LEVIT, V.G.; SAMTER,  
E.F.; TSUTSUL'KOVSKAYA, N.Ya.; FEDOTOV, D.D., prof., otv.  
red.: KOKHLIN, L.L., prof., red.; RAVKIN, I.G., prof.,  
red.

[Supporting therapy with neuroleptic agents of schizophrenics;  
methodological materials] Poddorzhivaiushchaya terapiia neiro-  
lepticheskimi sredstvami bol'nykh shizofreniei; metodiches-  
kie materialy. Pod red. L.L.Kokhlina i I.G.Ravkina. Moskva,  
1961. 64 p. (MIRA 15:10)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy institut  
psikiatrii. 2. Direktor Gosudarstvennogo nauchno-issledova-  
tel'skogo instituta psikiatrii Ministerstva zdravookhraneniya  
RSFSR (for Fedotov).

(Autonomic drugs)  
(Schizophrenics—Care and treatment)

RAVKIN, I.G.; SAMTER, N.F.

Basic principles of supportive, prophylactic therapy in schizophrenia. Zhur.nevr.i psikh. 60 no.9:1204-1208 '60. (MIRA 14:1)

1. Klinika (zav. - prof. I.G. Ravkin) Gosudarstvennogo nauchno-issledovatel'skogo instituta psichiatrii (dir - prof. V.M. Banshchikov) Ministerstva zdravookhraneniya RSFSR i bol'nitsa imeni Gannushkina (glavnnyy vrach V.P. Rybal'ka).

(SCHIZOPHRENIA)

RAVKIN, I.G.; SAMTER, N.F.

Therapeutic remissions in schizophrenia with a protracted unfavorable course and methods for making them permanent.  
Zhur.nevr. i psikh. 59 no.4:428-433 '59. (MIRA 12:6)

1. Klinika (zav. - prof.I.G.Ravkin) Gosudarstvennogo nauchno-issledovatel'skogo instituta psichiatrii Ministerstva zdravookhraneniya RSFSR (dir. - prof.V.M.Banshchikov) i bol'nitsa imeni Gannushchina (glavnnyy vrach V.N.Rybalka).

(SCHIZOPHRENIA, therapy,  
protracted cases (Rus))

RAVKIN, I.G.; ALEXANDROVA, A.P.; LANDO, L.I.; RODIN, I.L.

Reactions in chronic schizophrenia to polyvalent antiencephalitic serum used for therapeutic purposes [with summary in French]. Zhur. nevr. i psikh. 57 no.1:87-94 '57. (MLRA 10:3)

1. Nauchno-issledovatel'skiy institut psichiatrii (dir. - prof. V.M. Banshchikov) Ministerstva zdravookhraneniya RSFSR i Institut virusologii AMN SSSR, Moskva.

(SCHIZOPHRENIA, ther. antiencephalitis serum, causing reaction, EEG)

(IMMUNE SERUMS, ther. use

anti-encephalitis serum in schizophrenia, causing reaction, EEG)

(ELECTROENCEPHALOGRAPHY, in various dis.

anti-encephalitis serum ther. in schizophrenia causing reaction)

BARSUK, A.L.

"Treating neuro-psychic diseases in outpatients" by I.G.Ravkin.  
Reviewed by A.L.Barsuk. Zhur.nevr. i psich. 57 no.5:663-665 '57.  
(NERVOUS SYSTEM--DISEASES) (MIRA 10:8)  
(RAVKIN, I.G.)

RAVKIN, I.G.

[Dispensary treatment of patients with nervous and mental diseases]  
Ambulatornoe lechenie bol'nykh s nervno-psicheskimi zabolева-  
niami. Moskva, Medgiz, 1955. 218 p.  
(MLRA 9:4)  
(NERVOUS SYSTEM--DISEASES)

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

Lee Harvey Oswald, Dallas, 1964 on his 70th birthday. (Source: NARA)  
File # 100-2000-264-165  
(MIA 12-2)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014443

RAVKIN, M.

Fishing-touring cruises as a new kind of fishing economy. p. 56

MORSKO RIBARSTVO. (Udruzenje morskog ribarstva Jugoslavije) Rijeka,  
Yugoslavia. Vol. 11, no. 3, Mar. 1959

Monthly List of East European Accession (EEAI) LC, Vol. 8, no. 6  
June 1959  
Uncl.

RAVKIN, M.

"Another survey of the First Fishing Exhibition."

p. 263 (Morsko Ribarstvo) Vol. 9, no. 10, Oct. 1957  
Rijeka, Yugoslavia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,  
April 1958

RAVIN, M.

RAVIN, M. what kind of ship serves our fisheries best? p. 26.

Vol. 7, No. 11, Nov. 1951.

IZDANJE MIJARSTVA

AGRICULTURE

RIJEKA, YUGOSLAVIA

Ser: East European Agricultural, Vol. 5, May 1956

S/089/63/014/004/017/019  
A066/A126

AUTHORS: Rivkin, S.L., Yegorov, B.N.

TITLE: The specific heat of heavy water at high pressures and temperatures

PERIODICAL: Atomnaya energiya, v. 14, no. 4, 1963, 416 - 419

TEXT: The results of measurements of the specific heat of heavy water in liquid, vapor, and supercritical phases are presented in continuation of a paper in which the specific heat was determined for pressures up to 100 kg/cm<sup>2</sup> and temperatures of up to 300°C [S.L. Rivkin, B.N. Yegorov, Atomnaya energiya, v. 7, no. 5, 462 (1959)]. The measurements were made using an adiabatic calorimeter with a closed-circulation system. In contrast to the previous work mentioned before, the authors here used a liquid thermostat with very accurate temperature control ( $\pm 0.01^\circ\text{C}$ ). Far away from the saturation characteristic the error in measurement is about 0.35%, and near the saturation characteristic it is 1 - 2%. There are 1 figure and 1 table.

SUBMITTED: September 1, 1962

Card 1/1

RAVKIN, Yu.S.

Wintering birds in the Oka Terrace Preserve. Ornithologia no. 7:485-  
486 '65. (MIRA 18:10)

VOROB'YEV, V. N., RAVAIN, Yu. S., DZERZHINSK, B. I.  
New data on the ornithofauna of the north-eastern Altai.  
Ornitologija no. 6:140-145 '63. (MIRA 17:6)

RAVKIN, Yu.S.

Some results of the study of the bird population in the  
northeastern Altai. Izv. Alt. otd. Geog. ob-va SSSR no.5:  
149-151 '65. (MIRA 18:12)

1. Biologicheskiy institut Sibirskogo otdeleniya AN SSSR.

SAPEGINA, V.P.; AVERIN, Yu.S.

Fleas occurring on birds in the northeastern Altai. Izv.  
Akad. Nauk SSSR no.5:164 '65. (MIKA 18:12)

1. Biologicheskiy institut Sibirskego otdeleniya AN SSSR.

1. RAVKINA, L. I.
2. USSR (600)
4. Stomach
7. Comparative histological study of the stomach of grey and black karakul lambs.  
Trudy Inst. morf. zhiv. No. 7, 1952

9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

MAYZELIS, M.Ya.; RAVKINA, L.I.; TYUFANOV, A.V.

Permeability of the hematoencephalic barrier in experimental poliomyelitis in monkeys. Biul. eksp. biol. i med. 54 no.9: 53-58 S '62. (MIRA 17:9)

1. Iz Instituta poliomielita (dir.- deystvitel'nyy chlen AMN SSSR M.P. Chumakov) AMN SSSR i Instituta psichiatrii (dir.- prof. D.D. Fedotov) Ministerstva zdravookhraneniya RSFSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR M.P. Chumakovym.

RAVKINA, L.I.

Complement fixation with human blood coagulum extract studied  
with blood serum from cancer patients. Vop. onk. 6 no. 11:70  
74 N '60.

(CANCER) (COMPLEMENT FIXATION)

(MIRA 14:1)

SVET-MOLDAVSKY, G.J.; SVET-MOLDAVSKAYA, I.A.; RAVKINA, L.I. (Technical assistance:  
L.S. Kiseleva, E.A. Kanygina)

Further studies of acquired resistance to experimental allergic  
encephalomyelitis. Acta virol. Engl. Ed., Praha 4 no.2:94-105  
Mr '60

1. Influenza and Measles Laboratory, State Control Institute of  
Medical Biological Preparations, Moscow.  
(ENCEPHALOMYELITIS immunol.)

YURKOVSKIY, A.M.; RAVKINA, L.I.; ZHUKOVA, A.A.

Problem of the allergic nature of paralysis appearing after the administration of rabies vaccine. Zhur.nevr.i psikh. 61 no.3: 374-381 '61. (MIRA 14:7)

1. Gosudarstvennyy kontrol'nyy institut meditsinskikh i biologicheskikh preparatov imeni Tarasevicha i Institut poliomyelitii AMN SSSR, Moskva.

(RABIES) (PARALYSIS)

RAVKINA, L.I.; SVET-MOLDAVSKIY, G.Ya. (Moskva)

Study of the pathomorphology of experimental allergic encephalo-myelitis. Arkh.pat. no.3:27-33 '62. (MIRA 15:3)

1. Iz instituta poliomiyelita (dir. - deystvitel'nyy chlen AMN SSSR prof. M.P. Chumakov) AMN SSSR.  
(ENCEPHALOMYELITIS) (ALLERGY)

TYUFANOV, A.V.; TSYPKIN, L.B.; RAVKINA, L.I.; SHESTEL, M.A.

Study on residual virulence for monkeys of Sabin's attenuated polio-virus strains used for mass production of live vaccine. Acta virol.  
7 no.2:116-123 Mr '63.

1. Institute of Poliomyelitis and Viral Encephalitides, U.S.S.R.  
Academy of Medical Sciences, Moscow.  
(POLIOVIRUS VACCINE, ORAL)

SVET-MOLDAVSKIY, G.Ya.; SPEKTOR, N.M.; RAVKINA, L.I.

Experimental myasthenia-like syndrome and thymomas. Vest. AMN SSSR  
19 no.6:69-71 '64. (MIRA 18:4)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR  
i Institut poliomiyelita i virusnykh entsefalitov AMN SSSR, Moskva.

RAVINA, V. V.

Experimental allergic and polyradiculitis. Morphology of the central nervous and thymo-lymphatic systems. Vest AMN SSSR 13 no.11:57-60  
(MIRA 17:7)

'63

1. Institut poliomiyelita i virusnykh encefalitov AMN SSSR.

RAVKINA, L. I.

Extract of the blood coagulate of a patient as an antigen in the complement fixation reaction. Vest. derm. i ven. 32 no. 3:30-34  
(MIRA 11:7)  
My-Je '58

1. Is eksperimental'nogo otdela Leningradskogo koshno-venerologicheskogo instituta (zav. - prof. P.G. Oganesyants) Ministerstva zdravookhraneniya RSFSR.

(COMPLEMENT  
fixation test, extract of blood coagulate extract  
as antigen (Rus))

AVYUHA, L. I.

"Comparative Histological Research on the Gastrointestinal Tract of Black and Gray Karakul (Astrakhan) Lambs." Cand Biol Sci, Moscow Fur and Pelt Inst, Moscow, 1953. (RZhBiol, No 1, Sep 54).

SO: Sum 432, 29 Mar 55

RAVKINA, L.I.

Complement fixation reaction in tuberculosis with dried purified tuberculin used as antigen. [with summary in French]. Probl. tub. 36 no.6:90-94 '58  
(MIRA 11:10)

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta vaktsin i syvorotok.

(COMPLEMENT

fixation in tuberc. using dried purified tuberculin as antigen (Rus))

(TUBERCULIN, eff.

dried purified tuberculin as antigen, on complement fixation reaction in tuberc. (Rus))

RAVKINA, L.I.

Nonspecific antigen for the serological diagnosis of gonorrhoea.  
Vest. ven. i derm. no.4:51-53 J1-Ag '54. (MLRA 7:8)

1. Is serologicheskoy laboratorii (rukoveditel' prof. P.G.Ogane-  
syam) Respublikanskogo nauchno-issledovatel'skogo koshno-venerolo-  
gicheskogo instituta Ministerstva zdravookhraneniya RSFSR (dir.  
starshiy nanchnyy sotrudnik A.A.Kondrat'yeva)  
(GONORRHEA, diagnosis,  
\*serol., nonspecific antigen)

RAVIND, A.A.

30294

Cpryedyelyenixe moshchncsti chisla obcrotor dvigatyelya Dreytts RV7 M - 345, 436. Enyergyet.  
byullyetyen', 1949 № 9 S. 1-3

SC: LETCF'S № . 34

RAVKIND, A. A.

Diesel Motor

Changes in the critical number of revolutions of single-cycle fluctuations in stationary Diesel generators. Energ. biul., No, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED

RAVKIND, A. A.

Dynamos

Changes in the critical number of revolutions of single-cycle fluctuations in stationary Diesel generators. Energ. biul., No. 4, 1952.

Monthly List of Russian Accessions. Library of Congress, October 1952. UNCLASSIFIED

Ravkind, A. A.

Statsionarnyye divigateli vnutrennego sgoraniya v neftyanej promyslennosti  
(Stationary combustion engines in petroleum industry, by) G. S. Lopoyan i  
A. A. Ravkind. Moskva, Gostoptekhizdat, 1953.  
222 P. Illus., Diagrs., Tables.  
"Literatura": P. (221)

SO: N/5  
741.15  
.L8

RAVKIND, A. A.

G. S. Lopoyan and A. A. Ravkind

"Fixed Internal Combustion Motors in Oil Industry," published by the Scientific and Technical State Publishing House for Literature on Petroleum and Mine-Extracted Fuel in Moscow in 1954. A translation of the table of contents and a brief summary of the content follows:

Table of Contents

Foreword	3
Chapter I. Internal Combustion Motors in Stationary Equipment	6
Chapter II. Reconditioning of Fixed Motors	70
Chapter III. Adjustment of Fixed Motors	92
Chapter IV. Testing	106
Chapter V. Critical Numbers of Revolutions	124
Chapter VI. Transport and Low-Power Motors	200
Appendix: Defects in Motors and Methods of Eliminating Them	216
Bibliography	221

The book gives a description of the most generally used internal combustion motors with compression ignition for stationary equipment and drilling in oil industry. The practical problems of operating, maintenance, adjustment, controlling and testing are analyzed. The characteristics of the motors are given. The book also gives a brief description of mobile low-power electric plants, equipped with internal combustion motors with all the necessary information on fuel, oil and water used for the motors.

RASKIND, A. A.

AID P - 786

Subject : USSR/Engineering  
Card 1/1 Pub. 28 - 1/5  
Authors : Karas', V. Z. and Raskind, A. A.  
Title : Some problems of dynamics of stationary internal combustion engines with few non-operating cylinders  
Periodical : Energ. byul., #2, 1-9, F 1954  
Abstract : The problems of unbalanced work of the eight cylinder Worthington EEX and Sulzer 7TS-32 engines with one or more non-working cylinders are discussed. Particular attention was given to the distorted amplitudes and frequencies of vibration with and without liquidation of compression in faulty cylinders. 8 diagrams, 4 tables and 2 Russian references in the text (1940-1945).  
Institution : None  
Submitted : No date

RAVKIND, A-A

AID P - 1542

Subject : USSR/Engineering

Card 1/2 Pub. 28 - 2/7

Author : A. A. Ravkind

Title : Utilization of the UG-8 type governor for the  
"Enterprise" DGS-38 engine

Periodical : Energ. byul., 1, 5-9, Ja 1955

Abstract : The author describes and illustrates by 7 diagrams the necessary work, including replacement of certain gears, etc., required in exchanging the "Vudvord" (Woodward) governor type 1S by the Woodward UG-8 type governor. This had to be done when one of the "Interprayz" (Enterprise) model DSG-38, 900 HP, 428 rpm., 8 cyl., 4 cycle, engines 'died' because of the failure of the Woodward 1S type governor. The Woodward 1S type governor, standard equipment of the Enterprise DSG-38 engine, is comparatively old and cumbersome. It is

AID P - 1542

Energ. byul., 1, 5-9, Ja 1955

Card 2/2 Pub. 28 - 2/1

305x270x700 mm., weighs 90 kg., and makes 594 rpm.  
The UG-8 governor, standard equipment of the Ingersol  
Rand type S, 600 HP, 750 rpm engine, and of many other  
stationary and marine engines, is more compact. It is  
140x130x320 mm and weighs only 25 kg.

Institution: None

Submitted : No date

RAVKIND, A. A.

AID P - 1884

Subject : USSR, Engineering

Card 1,2 Pub. 28 - 1/5

Authors : Karas', V. Z. and Ravkind, A. A.

Title : Tentative development of viscous torsional vibration dampers

Periodical : Energ. byul., no.3, 1-12, Mr 1955

Abstract : While there are many vibration dampers used in internal combustion engines, a new viscous damper using silicone has received wide application in recent years. The development of this simple and dependable vibration damper became possible with the emergence of the organic silicon compounds, the fluids of which are characteristically different from the ordinary organic oils because of their higher viscous stability under variable and high temperatures. The authors describe an experimental viscous torsional vibration damper, and present the supporting underlying theories with mathematical formulae and calculation. Five

AID P - 1884

Energ. byul., no.3, 1-12, Mr 1955

Card 2/2 Pub. 28 - 1/5

diagrams and 1 table are included.

Institution : None

Submitted : No date

RAVKIND, A.A.

AID P - 1889

Subject : USSR/Engineering

Card 1/2 Pub. 28 - 1/7

Authors : Karas', V. Z. and Ravkind, A. A.

Title : Test of experimental viscous torsional vibration damper

Periodical : Energ. byul, no.4, 1-9, Ap 1955

Abstract : A 810-hour test made with a viscous torsional vibration damper of various organic silicon compounds on the MAN-Vumag MSV..40/46 (2,000 HP and 522rpm) marine vertical diesel coupled to the SD-1,000-428 (800kw and 428rpm) generator is described and illustrated with several diagrams. The Diesel actually was operated at 428rpm, developing from 900 to 1,000 HP. The analysis of damper characteristics and the corresponding variations of torque and vibrations are graphically shown and indicated in 2 tables; the power lost by the diesel without damper is also calculated.

AID P .. 1889

Energ. byul., no.4, 1-9, Ap 1955

Card 2/2 Pub. 28 - 1/7

The authors conclude that:  
the torsional vibration dampers should be made with  
domestic silicon compounds;  
the method of calculation applied in this case could  
be extended to other engines; and  
that dampers should be made of steel, with cadmium  
coating.

Institution : None

Submitted : No date

RAVKIND, A.A.

Breakdown of the 6D-30/50 engine. Energ.biul.no.10:23-27 0 '55.  
(Gas and oil engines) (MLRA 9:1)

RAVKIND, A.A.; BELOUSOV, P.G.

Testing type V2-300 GD gas diesels. Energ.biul. no.12:21-26 D '57.  
(Diesel engines--Testing) (MIRA 10:12)

BELOUSOV, P.G.; RAVKIND, A.A.

Testing the V2-300GD gas-diesel engines under conditions of oil  
well drilling. Energ.biul. no.12:23-30 D '58. (MIRA 11:12)  
(Diesel engines--Testing)

RAVKIND, A.A., kand.tekhn.nauk; SHCHEDROVICH, A.Ya., inzh.

Conversion of a 500 hp. Skoda diesel to gas-diesel operation.  
Prom. energ. 20 no.7:20-25 J1 '65.

(MIRA 18:12)

RAVKIND, A. A., Cand. Tech. Sci. (diss) "Investigation of Gas-diesel Process of High-speed Engine on Natural Gas," Moscow, 1961, 11 pp. (Moscow Bauman Higher Tech. School) 200 copies (KL Supp 12-61, 272).

AID P - 3614

Subject : USSR/Engineering

Card 1/1 Pub. 28 - 5/7

Author : Ravkind, A. A.

Title : ~~Breakdown of the 6D-30/50 engine~~

Periodical : Energ. byul., 10, 23-27, 1955

Abstract : The author describes a case of complete breakdown of a diesel engine widely used in the petroleum industry, the 6D-30/50 model, with two-cycle 600 HP at 300 rpm, and normal, usual load of 380 to 400 kw made in 1949. This engine 'blew' after only 30 hours in operation in line with other such installations. The circumstances are analysed, the breakdown explained, and remedies are suggested. Two sketches and one drawing.

Institution : None

Submitted : No date

RAVKIND, A. A.

USSR.

1938\* The Development of an Experimental Torsional Vibration Damper Using a Silico-Organic Liquid. Razrabotka opytnogo obraztsa dempfera krutil'nykh kolebaniy s kremal'-organicheskoi zhidkost'yu. (Russian.) V. Z. Karas' and A. A. Ravid. *Energeticheskiy Blüteen*, 1955, no. 3, Mar., p. 172. Device to decrease vibrations in diesel and other engines. Graphs, diagrams, table. 6 ref.

SOV/90-58-12-3/4

AUTHORS: Belousov, P.G., Raykind, A.A.

TITLE: Tests of the V2-300GD Gas Diesels in Prospecting Drilling  
(Ispytaniye gazodizeley V2-300GD v usloviyakh bureniya)

PERIODICAL: Energeticheskiy bulleten', 1958, Nr 12, pp 23-30 (USSR)

ABSTRACT: This is a description of the V2-300 GD gas diesel tests in prospecting drilling. The 5D Uralmash prospecting drill was used for this experiment. The results of lifting and lowering prospecting drill operations are given in Table 3. The gas-air mixture regulating devices are shown. Conclusions drawn: the working of gas diesels was normal: about 75 % of liquid fuel was saved; lifting operations were to some extent accelerated; the heat consumption during lowering of prospecting drill was to a certain degree lessened. In spite of this, cost savings were achieved. The use of serially produced diesel regulators is recommended for combined gas and liquid fuel. Wide use of V2-300 GD gas diesel for prospecting drilling is possible. Development of a spark ignition diesel, on the base of the V2 diesel is recommended. There are 4 diagrams, 3 tables, 2 graphs and 3 Soviet references.

Card 1/1

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